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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,934	11/14/2003	Jun Nakano	244155US-6DIV	7424

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ALEXANDRIA, VA 22314

EXAMINER

HECKENBERG JR, DONALD H

ART UNIT	PAPER NUMBER
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1722

DATE MAILED: 06/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/706,934

Applicant(s)

NAKANO ET AL.

Examiner

Donald Heckenberg

Art Unit

1722

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. 10/182,395.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                               |                                                                                        |
|-------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                          | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date = | 6) <input type="checkbox"/> Other: ____                                                |

Art Unit: 1722

1. The first line of the specification needs to be updated to reflect that the parent application, U.S. Pat. App. Ser. No. 10/182,395, has been abandon.

2. Several claims of the instant application recite terms without explicitly providing an antecedent basis. For example, claim 1 recites "the fixed die side" in line 3, "the tip" in line 9, and "the movable die side" in line 10. There is not an antecedent basis for any of these terms. While the claims can still be understood as is, it would be better (and is suggest to Applicant) to recite elements that have not previously been defined with a nonspecific article. For example, it would better to recite "a fixed die side" in line 3 of claim 1.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 2, 6, and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 1722

Claims 2, 6, and 8 recite that the center hole molding portion is as such to comprise a "R surface" or a "C surface" molding portion. The terms "R surface" and "C surface" are not commonly known terms, nor does the specification of the instant application define these terms. The claims therefore are indefinite as it cannot be determined how the center molding portion is configured to mold such surfaces.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this

Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Art Unit: 1722

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1, 2, and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Pub. No. 06-198685 (hereinafter "JP '685) in view of Kudo et al. (U.S. Pat. No. 5,552,098).

Reference below will be made to the drawings of JP '685, as well as the computer translation of the document made of record with this Office Action.

JP '685 discloses an injection molding apparatus for making a disk. The apparatus comprises a cavity (C) into which a molten resin is injected through a sprue (23) and a recessed form gate (G). A signal transfer stamper (37) is disposed

Art Unit: 1722

within the cavity. The apparatus comprises a projected portion provided at the tip of the sprue for molding the recessed form gate, and a recessed portion for molding the recessed form gate provided oppositely to the projected portion (see Fig. 3). A gate cutter (34) is also disposed at the recessed form gate on a movable side of the die. A center hole molding portion (23a) is provided at the outer circumference of the sprue. JP '685 further discloses an advancement amount of the gate cutter to be 0.1 - 0.3 mm (translation ¶ 22).

Although JP '685 discloses the mold to be provided with a stamper (37), the reference provides the stamper on the movable die, as opposed to the fixed die. Kudo, however, discloses that it a known alternative in the art is to provide a stamper (50) on the fixed die (41). Thus, it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to have modified the device disclosed by JP '685 as such to have provided the stamper on the fixed die instead of the movable die because this is an alternative configuration which is still capable of producing a disk as suggested by Kudo.

9. Claims 3 and 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP '685 modified by Kudo as applied to claims 1 and 2 above, and further in view of Japanese Pub. No.

Art Unit: 1722

07-068605 (hereinafter "JP '605"). Reference below will be made to the drawings of JP '605, as well as the computer translation of the document made of record with this Office Action.

JP '685 and Kudo disclose and suggest the apparatus as described above, including a straight center hole molding portion. The references do not disclose the center molding portion to include a taper molding portion.

JP '605 also discloses an injection mold for making disk substrates. The sprue (33), which mold a center hole of the formed disk substrate is provided with a taper (65) in order to mold a corresponding taper on the disk substrate (see Fig. 1).

It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to have modified the apparatus disclosed and suggested by JP '685 and Kudo as such to have the center hole molding portion comprise a taper portion because this would have allowed for a corresponding tapered portion to be formed on the molded disk as suggested by JP '605.

10. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP '685 modified by Kudo as applied to claims 1 and 2 above, and further in view Japanese Pub. No. 04-195743 (hereinafter "JP '743"). Reference below will be made to

Art Unit: 1722

the drawings of the document, as well as the English abstract also made of record with this Office Action.

It is noted that claim 9 recites a "means plus function" clause. Specifically, lines 15-17 defines a "means for discharging a sprue and gate remaining resin to [the] movable die side relative to [the] disk substrate." This element has been interpreted as invoking 35 U.S.C. § 112, sixth paragraph, and thereby are limited to the corresponding structure described in the specification and equivalents thereof. In re Donaldson, 16 F.3d 1189, 1194, 29 USPQ2d 1845, 1950 (Fed. Cir. 1994); MPEP § 2181. The specification describes a discharging means as an air jet nozzle at p. 49, l. 20 - p. 50, l. 18.

JP '685 and Kudo disclose and suggest the apparatus as described above. JP '685 and Kudo do not disclose a take out apparatus to be provided with the injection molding apparatus.

JP '743 discloses an unloading device for a disk molding machine. The device comprises a robot which includes an air nozzle (24) for blowing off excess material (see abstract).

It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to have modified the apparatus disclosed by JP '743 and Kudo as such to have included a robot take out device with an air nozzle because this would have allowed for both the molded disk to be removed from the



Art Unit: 1722

mold as well as excess materials to be blown away as suggested by JP '743.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald Heckenberg whose telephone number is (571) 272-1131. The examiner can normally be reached on Monday through Friday from 9:30 A.M. to 6:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith, can be reached at (571) 272-1166. The official fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <<<http://pair-direct.uspto.gov>>>. Should you have questions

Application/Control Number: 10/706,934

Page 9

Art Unit: 1722

on access to the Private PAIR system, contact the Electronic  
Business Center (EBC) at (866) 217-9197 (toll-free).



Donald Heckenberg  
Patent Examiner  
A.U. 1722

6-20-5